AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

Claim 1 (Previously Presented): A process for manufacturing a polyurethane comprising the steps of:

a) mixing a difunctional alcohol with a difunctional isocyanate to form a first mixture in the presence of not more than 30 weight percent, with respect to the overall solid content, of a water-miscible solvent having no reactive hydrogen, wherein the difunctional isocyanate is selected from the group consisting of isophorone diisocyanate, 4,4-dicyclohexylmethane diisocyanate, 1,6-hexamethylene diisocyanate, alicyclic diisocyanates, diphenylmethane-4,4'-diisocyanate, toluene diisocyanate and a mixture thereof;

b) heating the first mixture;

c) adding a chain extender to the heated first mixture to form a second mixture, said chain extender containing a carboxylic acid group;

d) neutralizing the second mixture by a neutralizer capable of reacting with a carboxylic acid group, to form the polyurethane;

e) dispersing the polyurethane in water; and

f) removing the water-miscible solvent.

Claim 2 (Original): The process of claim 1, wherein the first mixture is heated at a temperature of about 80 degree Celsius to about 100 degree Celsius in step b).

Claim 3 (Previously Presented): The process of Claim 2, wherein the first mixture is heated for about two to about five hours.

Claims 4-6 (Canceled)

Claim 7 (Previously Presented): The process of Claim 1, wherein the difunctional alcohol is selected from the group consisting of polyether diol, polyester diol, polycarbonate, polycaprolactone, and a mixture thereof.

Claim 8 (Previously Presented): The process of Claim 7, wherein the difunctional alcohol is selected from the group consisting of polypropylene glycol, 1,4-butane glycol adipate, polytetramethylene glycol, polyethylene glycol, and a mixture thereof.

Claim 9 (Currently Amended): The process of Claim 1, wherein said chain extender ~~is selected from the group consisting of 1,4-butanediol, 1,3-propanediol, 1,2-ethanediol, 4,4'-dihydroxy biphenyl,~~ comprises 2,2-dimethylolpropanic acid~~, and a mixture thereof~~.

Claim 10 (Original): The process of Claim 1, wherein the molar ratio between the difunctional isocyanate and the difunctional alcohol is from about 1:1.5 to about 1:5.0.

Claim 11 (Previously Presented): The process of Claim 1, wherein the neutralizer is selected from the group consisting of water-soluble tertiary amines, alkali metal hydrides, and a mixture thereof.

Claim 12 (Previously Presented): The process of Claim 11, wherein the molar ratio of the reactive hydrogen groups to the neutralizer is from about 1:0.5 to about 1:1.2.

Claims 13-15 (Canceled)

Claim 16 (Previously Presented): The process as claimed in claim 1, wherein the amount of water is about 5% to about 50 weight percent with respect to the overall solid content.

Claim 17 (Previously Presented): The process as claimed in claim 1, wherein the temperature of the water is about 5 degree Celsius to about 80 degree Celsius.

Claim 18 (Currently Amended): Polyurethane manufactured by ~~the~~ a process ~~of Claim 1~~ comprising the steps of:

a) mixing a difunctional alcohol with a difunctional isocyanate to form a first mixture in the presence of not more than 30 weight percent, with respect to the overall solid content, of a water-miscible solvent having no reactive hydrogen, wherein the difunctional alcohol is selected from the group consisting of polyether diol, polyester diol, polycarbonate, polycaprolactone, and a mixture thereof, and wherein the difunctional isocyanate is selected from the group consisting of isophorone diisocyanate, 4,4-dicyclohexylmethane diisocyanate, 1,6-hexamethylene diisocyanate, alicyclic diisocyanates, diphenylmethane-4,4'-diisocyanate, toluene diisocyanate and a mixture thereof;

b) heating the first mixture at a temperature of about 80°C to about 100°C for about two to about five hours;

c) adding a chain extender to the heated first mixture to form a second mixture, said chain extender containing a carboxylic acid group;

d) neutralizing the second mixture by a neutralizer capable of reacting with a carboxylic acid group, to form the polyurethane, wherein the neutralizer is selected from the group consisting of water-soluble tertiary amines, alkali metal hydrides, and a mixture thereof;

e) dispersing the polyurethane in water in which the amount of water is about 5% to about 50 weight percent with respect to the overall solid content and in which the temperature of water is about 5°C to about 80°C; and

f) removing the water-miscible solvent;

wherein the molar ratio between the difunctional isocyanate and the difunctional alcohol is from about 1:1.5 to about 1:5.0; and

wherein the molar ratio of the reactive hydrogen groups to the neutralizer is from about 1:0.5 to about 1:1.2.

Claim 19 (Original): Polyurethane of Claim 18 having a tensile modulus varying with temperature, and a glass transition or melting temperature, wherein the ratio of the tensile modulus at temperatures 10°C higher than the glass transition or melting temperature, to the tensile modulus at temperatures 10°C lower than the glass transition or melting temperature, is about 50 to 400.

Claim 20 (Previously Presented): Polyurethane of Claim 19, wherein the glass transition temperature is in the range of about –30°C to about 80°C.

Claims 21 and 22 (Canceled)

Claim 23 (Previously Presented): The process of claim 1, wherein said chain extender comprises 2,2-dimethylolpropanic acid or a combination of 2,2-dimethylolpropanic acid and at least one compound selected from the group consisting of 1,4-butanediol, 1,3-propanediol, 1,2-ethanediol and 4,4'-dihydroxy biphenyl.